abcam

ab283285

Anti-NUR77 antibody [EPR23982-85] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR23982-85
Purification technique	Affinity purification Protein A
Concentration	1.025 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	-

Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information NR4A1

Function

Orphan nuclear receptor. Binds the NGFI-B response element (NBRE) 5'-AAAGGTCA-3' (PubMed:18690216, PubMed:8121493, PubMed:9315652). Binds 9-cis-retinoic acid outside of its ligand-binding (NR LBD) domain (PubMed:18690216). Participates in energy homeostasis by sequestrating the kinase STK11 in the nucleus, thereby attenuating cytoplasmic AMPK activation (PubMed:22983157). Regulates the inflammatory response in macrophages by regulating metabolic adaptations during inflammation, including repressing the transcription of genes involved in the citric acid cycle (TCA) (By similarity). Inhibits NF-kappa-B signaling by binding to low-affinity NF-kappa-B binding sites, such as at the IL2 promoter (PubMed:15466594). May act concomitantly with NR4A2 in regulating the expression of delayed-early genes during liver regeneration (By similarity). Plays a role in the vascular response to injury (By similarity). In the cytosol, upon its detection of both bacterial lipopolysaccharide (LPS) and NBRE-containing mitochondrial DNA released by GSDMD pores during pyroptosis, it promotes non-canonical NLRP3 inflammasome activation by stimulating association of NLRP3 and NEK7.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab283285 is the carrier-free version of ab283264.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	NUR77 also known as NR4A1 is an orphan nuclear receptor and transcription factor with a molecular mass of around 65 kDa. This protein plays an important role in mediating gene expression by binding DNA at specific response elements. It is expressed in various tissues including the thymus spleen and central nervous system. NUR77 achieves its mechanical function by regulating gene transcription involved in cell proliferation apoptosis and metabolism.
Biological function summary	The functions of NUR77 impact multiple cellular processes that are essential for maintaining cellular homeostasis. As part of its biological roles NUR77 can form complexes with other nuclear receptors and influence gene expression. It is particularly significant in T-cell receptor signaling where it influences the balance between cell survival and cell death. This modulation helps in the regulation of immune functions and cellular development.
Pathways	NUR77 integrates into the MAPK signaling and apoptosis pathways. It interacts with proteins such as Bcl-2 and p53 facilitating cellular responses to stress and developmental cues. In the MAPK pathway NUR77 can modulate transcriptional

activities affecting cell proliferation and differentiation while in apoptotic pathways it contributes to the regulation of programmed cell death making it a critical modulator in these contexts.

Associated diseases and disorders

NUR77 has been associated with cancer and atherosclerosis. Its role in apoptosis makes it a point of interest in cancer research where altered NUR77 expression can influence tumor growth and resistance to therapy. In the context of atherosclerosis aberrant activity of NUR77 affects lipid metabolism and inflammation. Through its link to pathways involving Bcl-2 and p53 NUR77 remains a significant target in both therapeutic research and disease management.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

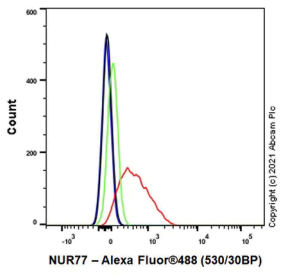
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

5 product images



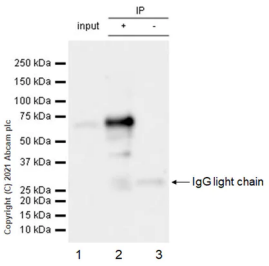
Flow Cytometry (Intracellular) - Anti-NUR77 antibody [EPR23982-85] - BSA and Azide free (ab283285)

NUR77 Flow Cytometry (Intracellular) staining using rabbit Anti-NUR77 antibody

This data was developed using ab283264, the same antibody clone in a different buffer formulation.
Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Jurkat (human T cell leukemia T lymphocyte) cells treated with 40nM TPA and 2 µM calcium ionophore for

4 hours (Red) or untreated control (Green) cells labelling NUR77 with ab283264 at 1/500 dilution (0.1 µg / Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-NUR77 antibody [EPR23982-85] - BSA and Azide free (ab283285)

This data was developed using ab283264, the same antibody clone in a different buffer formulation.
NUR77 was immunoprecipitated from 0.35 mg HeLa (human cervix adenocarcinoma epithelial cell) cells treated with 10µM MG-132 for 6h whole cell lysate with ab283264 at 1/30 dilution (2µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab283264 at 1/1000 dilution. VeriBlot for IP secondary antibody (HRP) (ab131366) was used at 1/5000 dilution.

Lane 1: HeLa cells treated with 10µM MG-132 for 6h whole cell lysate 10 µg

Lane 2: ab283264 IP in HeLa cells treated with 10µM MG-132 for 6h whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab283264 in HeLa treated with 10µM MG-132 for 6h whole cell lysate

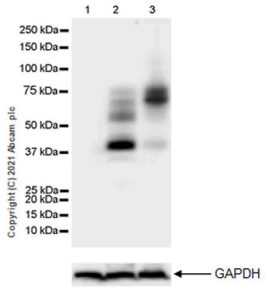
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 32 seconds.

All lanes:
Immunoprecipitation - Anti-NUR77 antibody [EPR23982-85] (ab283264)

Predicted band size: 64 kDa

Observed band size: 38 kDa, 70 kDa



Western blot - Anti-NUR77 antibody [EPR23982-85] - BSA and Azide free (ab283285)

NUR77 Western blot staining using rabbit Anti-NUR77 antibody

This data was developed using ab283264, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

The expression profile/molecular weight observed is consistent with what has been described in the literature (PMID: 30224829, 28111880, 29669342).

Exposure time: 15 seconds.

All lanes:
Western blot - Anti-NUR77 antibody [EPR23982-85] (ab283264) at 1/1000 dilution

Lane 1:
Untreated Jurkat (human T cell leukemia cell line from peripheral blood) whole cell lysate at 20 µg

Lane 2:
Jurkat treated 40nM TPA and 2uM calcium ionophore A23187 for 4 hours whole cell lysate at 20 µg

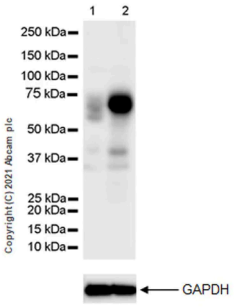
Lane 3:
Jurkat treated 40nM TPA, 2uM calcium ionophore A23187 and 10uM MG-132 for 4 hours whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 64 kDa

Observed band size: 32 kDa, 38 kDa, 60-80 kDa



Western blot - Anti-NUR77 antibody [EPR23982-85] - BSA and Azide free (ab283285)

NUR77 Western blot staining using rabbit Anti-NUR77 antibody

This data was developed using ab283264, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

The expression profile/molecular weight observed is consistent with what has been described in the literature (PMID: 30224829, 28111880, 29669342).

Exposure time: 15 seconds.

All lanes:
Western blot - Anti-NUR77 antibody [EPR23982-85] (ab283264) at 1/1000 dilution

Lane 1:
Untreated HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

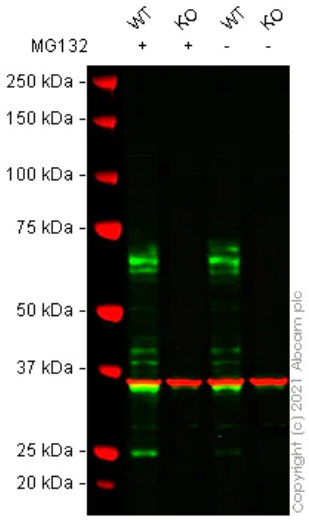
Lane 2:
HeLa treated with 10uM MG-132 for 6h whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 64 kDa

Observed band size: 32 kDa, 38 kDa, 60-80 kDa



Western blot - Anti-NUR77 antibody [EPR23982-85] - BSA and Azide free (ab283285)

NUR77 Western blot staining using rabbit Anti-NUR77 antibody

False colour image of Western blot: Anti-NUR77 antibody [EPR23982-85] staining at 1/1000 dilution, shown in green; Mouse anti-GAPDH antibody [6C5] (ab8245) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab283264 was shown to bind specifically to NUR77. A band was observed at 62-70 kDa in treated wild-type HeLa cell lysates with no signal observed at this size in NR4A1 knockout cell line ab264021 (knockout cell lysate ab264509). To generate this image, wild-type and NR4A1 knockout HeLa cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) at 1/20000 dilution.
All lanes:
Western blot - Anti-NUR77 antibody [EPR23982-85] (ab283264) at 1/1000 dilution

Lane 1:
Wild type HeLa treated MG132 (10 uM, 6 h) cell lysate at 20 µg

Lane 2:
NR4A1 knockout HeLa treated MG132 (10 uM, 6 h) cell lysate at 20 µg

Lane 2:
Western blot - Human NR4A1 (NUR77) knockout HeLa cell line (ab264021)

Lane 3:
Wild type HeLa vehicle control MG132 (0 uM, 6 h) cell lysate at 20 µg

Lane 4:
NR4A1 knockout HeLa vehicle control MG132 (0 uM, 6 h) cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 64 kDa

Observed band size: 62-70 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.